



PCI-SIG ENGINEERING CHANGE REQUEST

TITLE:	OCuLink Implementation ECR R0.1
DATE:	July 13, 2018
AFFECTED DOCUMENT:	OCuLink 1.0
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Part I:

1. Summary of the Functional Changes

Several dimensions included in Chapter 9 of the OCuLink 1.0 Specification are repeated from previous chapters. Repeated dimensions have been removed and additional pointers have been added to direct users where to find more information about various OCuLink implementations.

2. Benefits as a Result of the Changes

Duplicate dimensions have been removed. Drawings only include critical information but point user to where additional information may be found.

3. Assessment of the Impact

Drawings and dimensions for various applications listed in OCuLink 1.0 have been corrected and clarified.

4. Analysis of the Hardware Implications

Updating the dimensions and tolerances as well as clarifying figures will enable more effective manufacturing of the components and assemblies.

5. Analysis of the Software Implications

None, this change does not affect software.

Part II:

See next page; sections of text, figures and tables that have not been included are unaffected by this ECR.

9. OCuLink x4 Implementation Guide

9.1. Enclosure or I/O Bracket Opening for x4 Fixed External Connectors

The recommended opening for Fixed external OCuLink connectors is shown in Figure 9-1. Dimensions are listed in Table 9-1.

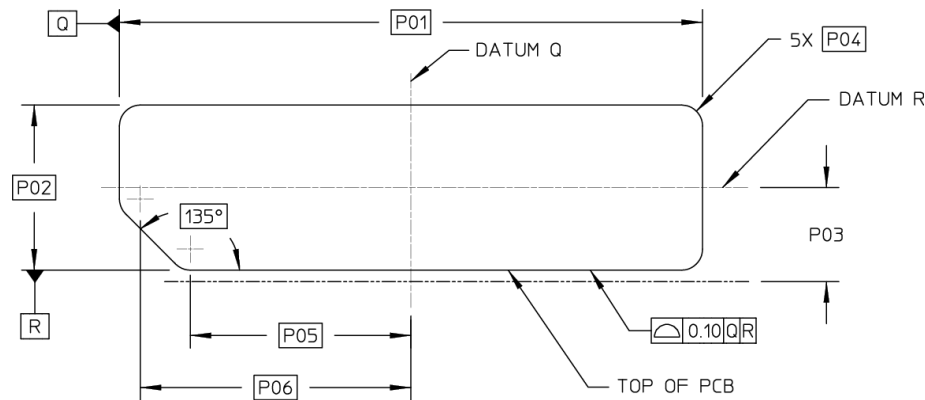


Figure 9-1. Recommended Enclosure or I/O Bracket Opening for x4 Fixed External Connector

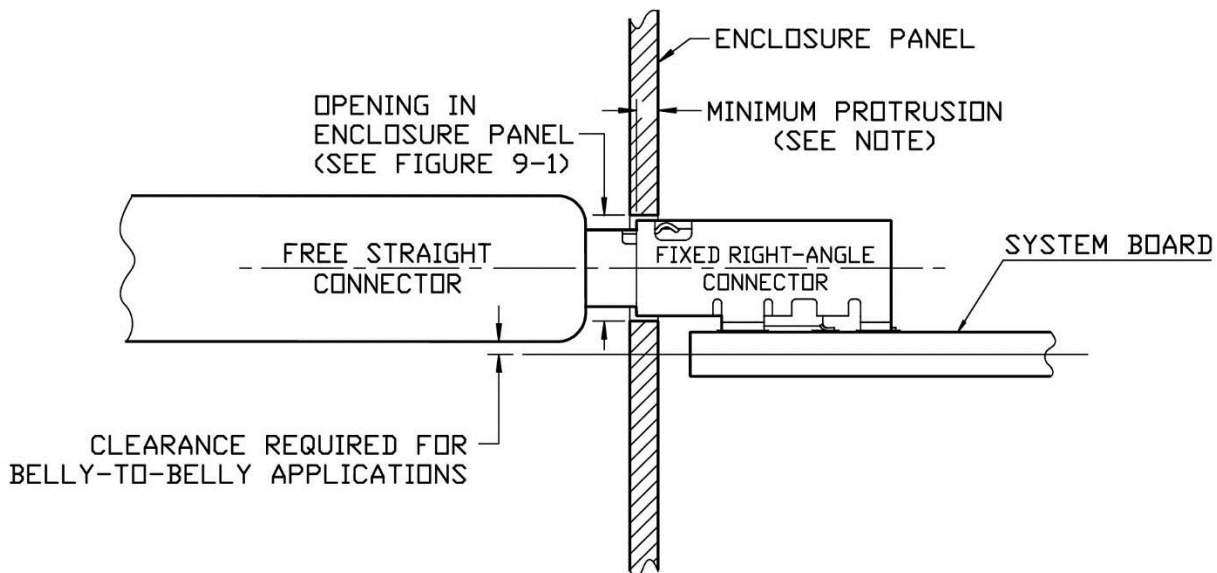
Table 9-1. Dimensions for a Single Fixed External Connector Opening

Designator	Description	Dimension	Tolerance \pm
P01	Opening width	13.95	Basic
P02	Opening height	3.93	Basic
P03	Top of PCB to horizontal CL (Datum R) of opening	2.24	0.08
P04	All inside radii	0.50	Basic
P05	Vertical CL of opening (Datum Q) to the lower radius of the orientation feature	5.28	Basic
P06	Vertical CL of opening (Datum Q) to the upper radius of the orientation feature	6.48	Basic

9.2. Clearance Requirements for OCuLink x4 External Connectors/Cables for Enclosures and PCIe Add-in Cards

The *PCI Express Card Electromechanical Specification* requires clearance between External Fixed connectors/ Free cables and system enclosures/ PCIe add-in cards. Additionally, the front of the Fixed connector must be allowed to protrude through the enclosure panel or through the add-in card bracket by a distance specified in the *PCI Express Card Electromechanical Specification*.

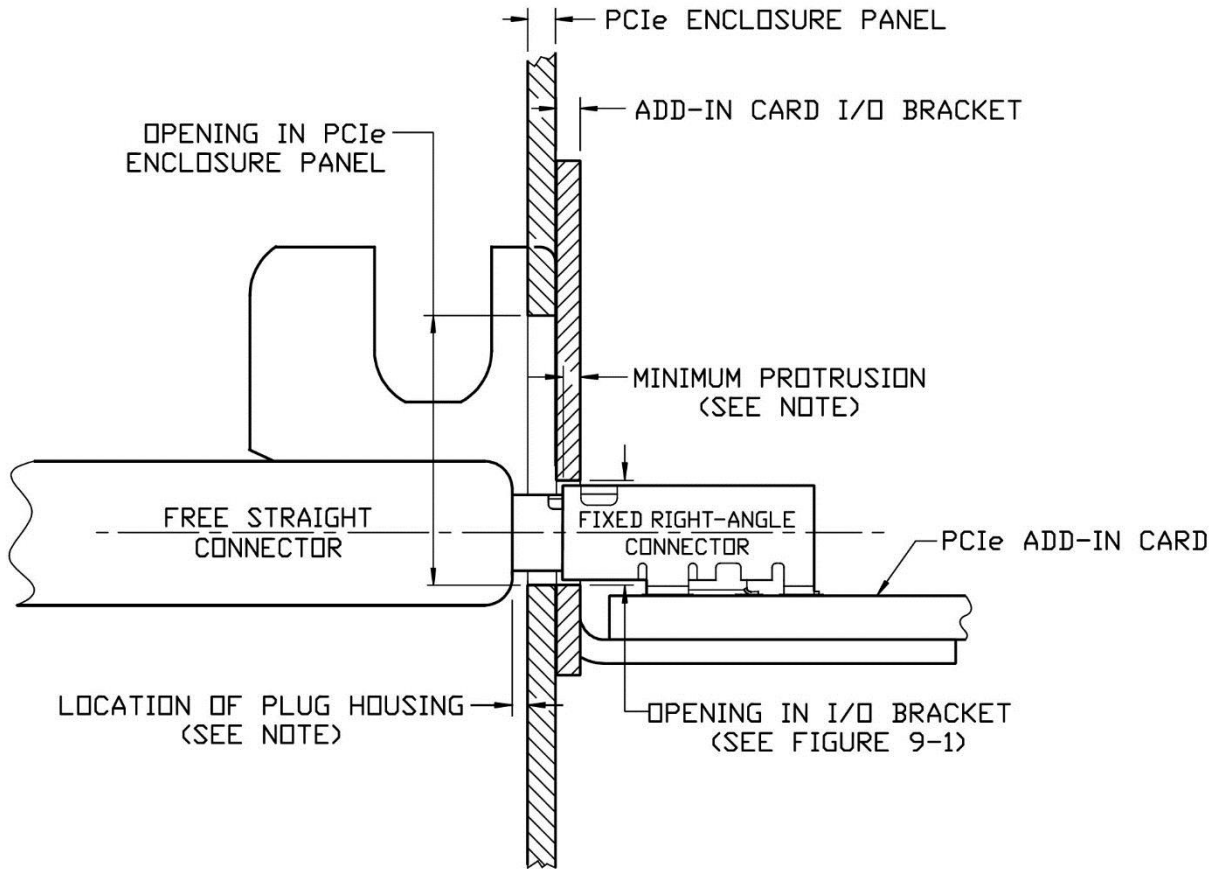
Applications are permitted to utilize different panel thicknesses and/or different distances from the edge of the host board to the inside of the panel, but the Fixed connector must be placed on the system board (see Figure 9-2) or on the add-in card (see Figure 9-3) such that the minimum protrusion specified by the *PCI Express Card Electromechanical Specification* is maintained.



Note: Refer to the *PCI Express Card Electromechanical Specification* for detailed dimensions and minimum protrusion requirements.

Figure 9-2. OCuLink x4 External Cable Mated to a Fixed Right-Angle Connector on a System Board

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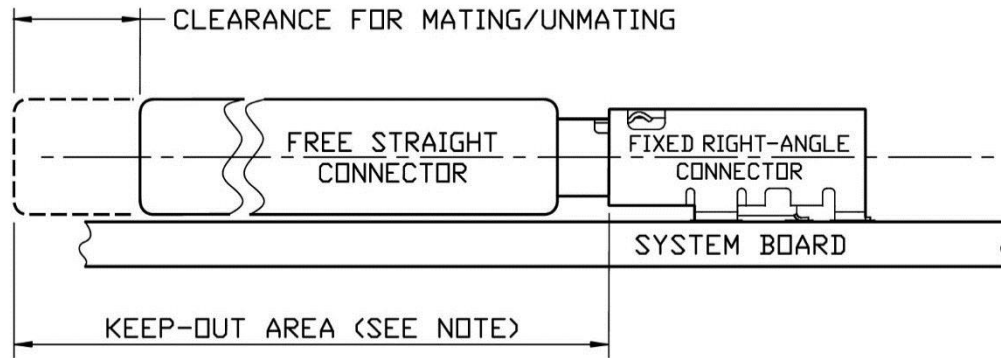


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3 **Note:** Refer to the *PCI Express Card Electromechanical Specification* for detailed dimensions, clearance
4 requirements, and minimum protrusion requirements.

5 **Figure 9-3. OCuLink x4 External Cable Mated to a x4 Fixed Right-Angle**
6 **Connector Mounted on a PCIe Add-in Card Assembled in a**
7 **System Slot**

8



Note: A component keep-out area must exist to allow for the cable to be mated/ un-mated. See the appropriate Free Cable form factor for dimensions that enable connection to a mid-board mounted connector (see Section 6).

Figure 9-4. OCuLink x4 Internal Cable Mated to a x4 Fixed Right-Angle Connector Mounted Mid-Board